

REMARKS

By this Amendment, Applicants have sought to address the Examiner's comments in items 1 and 2 on page 2 of Official Action.

Further, Applicant have addressed the Examiner's objections as set forth in items 3-6 on pages 2-4 of the Official Action, by amending both the drawings as shown in the attached Figures (red ink underlinings) and by the deletion of various portions of the originally filed specification. See, the Substitute Specification submitted herewith, which further addresses the Examiner's comments on the originally filed Specification, as well as the objections noted in item No. 7 on page 5 of the Official Action.

In item 9 on pages 6-10 of the Official Action, the Examiner has rejected Claims 22-25 and 29-38 under U.S.C. § 112 (2nd¶). Applicants believe that the amendment to the claims as submitted herewith speaks to the specific concerns raised by the Examiner, and which are not herein repeated.

On the merits, Claims 20, 21, 29 and 38 have been rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,325,934 (Pohl). The Examiner's arguments in support of this rejection are set forth in item No. 11 on pages 10 and 11 of the Official Action, and not herein repeated.

Further, Claims 20, 30, 31, 33 and 38 have been rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,489,506 (Crane). The arguments advanced in support of this rejection are set forth in item No. 12 on pages 11 and 12 of the Official Action, and not herein repeated.

Claims 20-31 and 31 have been rejected under 35 U.S.C. § 102(b) as anticipated by Fiedler et al. See the reason advanced by the Examiner in item No. 13 on pages 12-14 of the Official Action, and which are not herein repeated.

Claims 20, 29, 34 and 38 have been rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 5,888,370 (Becker et al). See the arguments advanced by the Examiner in item No. 14 on pages 14 and 15 of Official Action, and which are not herein repeated.

Finally, the Examiner has rejected claims 20, and 36-38 under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 5,814,200 (Pethig et al). See item No. 15 on page 15 of the Official Action for the Examiner's arguments in support of this rejection.

Additionally, the Examiner has rejected claims 32, 35 under U.S.C. § 103 for the reasons set forth in item Nos. 17 and 18 on pages 16-17 of the Official Action.

Applicants respectfully traverse each and every ground for rejection. Applicants point out that claim 20 is the sole independent claim, which if patentable over the references relied upon by the Examiner, which mean that all claims depending therefrom, either directly or indirectly should also be found patentable.

The subject matter of claim 1 is new over the Pohl reference as this prior art document does not disclose the provision of a microelectrode with a band-shape having a curvature or comprising straight electrode sections having different angles relative to the longitudinal channel direction as presently claimed. On the contrary, the Pohl reference discloses straight electrodes (reference numerals: 30, 80, 90) running straight

The same is true with regard to the Crane reference. The Crane reference in particular discloses electrode sections (reference numerals: RF-1, RF-2, RF-3). However, these electrode sections are not positioned with different angles relative to the longitudinal extension of the channel as presently claimed.

Furthermore, Fiedler et al. teaches straight electrodes running parallel to the channel direction (see in particular Figs. 2 and 3). Curved band-shaped electrodes or electrodes comprising sections with different angles are not shown or described by Fiedler et al.

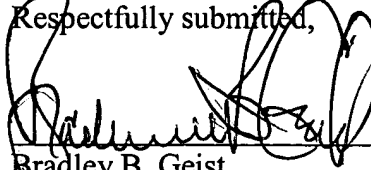
The above arguments are correspondingly true with regard to the Becker reference. The provision of curved or sectioned electrodes is not disclosed by Becker. On the contrary, Becker teaches to use straight electrodes only. Although these electrodes can have different angles, they do not form curved bands or electrode sections with different angles connected with each other as presently claimed.

Finally, Pethig discloses straight electrodes only (see Fig. 6).

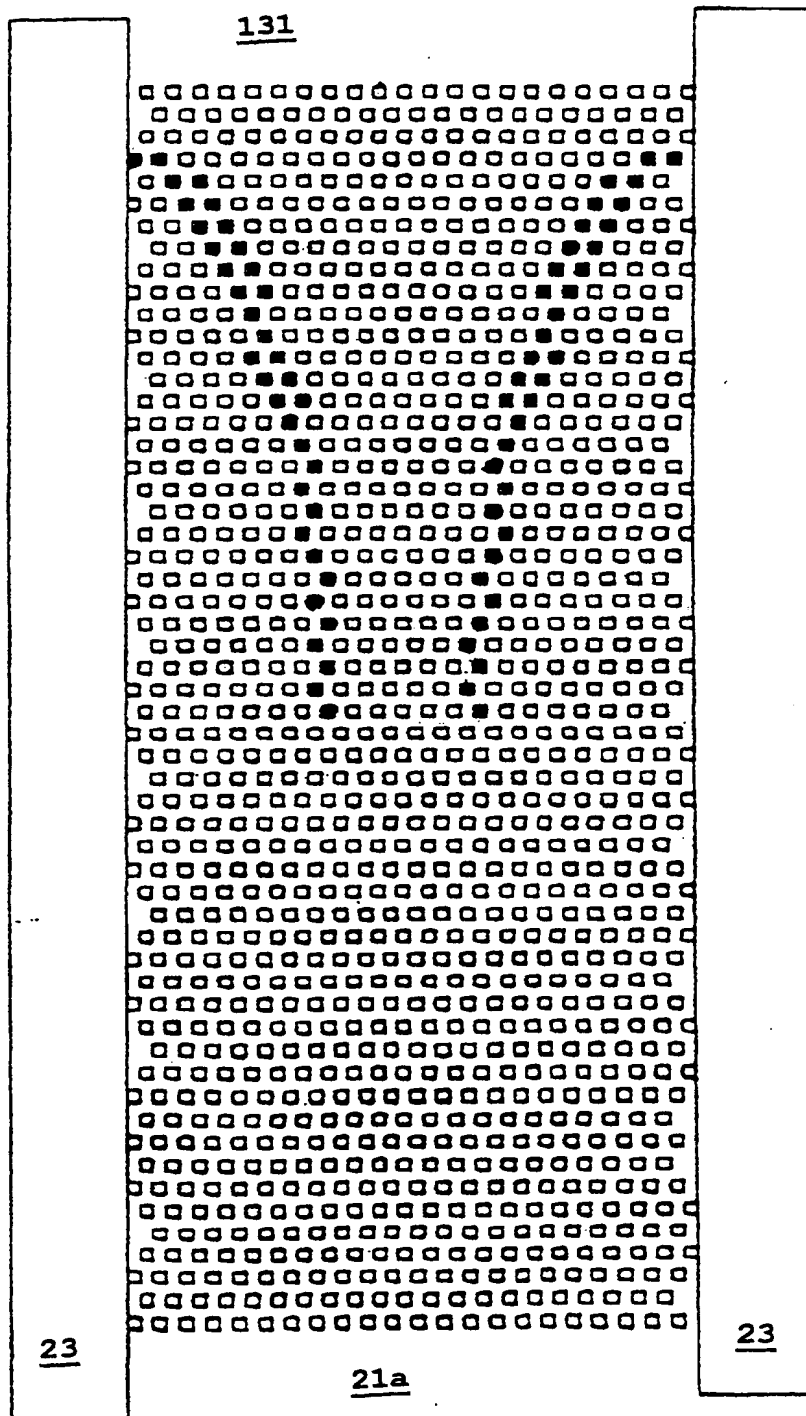
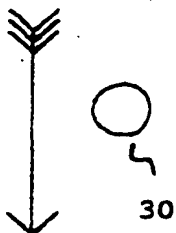
With regard to the obviousness rejection, the following arguments are emphasized. As Shown above, all prior art documents are absolutely silent with regard to curved band-shaped electrodes or sectioned electrodes. However, even these features of claim 20 allow the provision of curved field barriers which essentially improve the performance of the dielectrophoretic particles manipulation. Curved field barriers have a series of advantages (see specification, page 5, [0010], which could not be foreseen from the prior art techniques.

In view of the amendments and remark herein above, Applicants request reconsideration of the pending claims 20-38.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Bradley B. Geist', is written over a horizontal line.

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Fig. 13

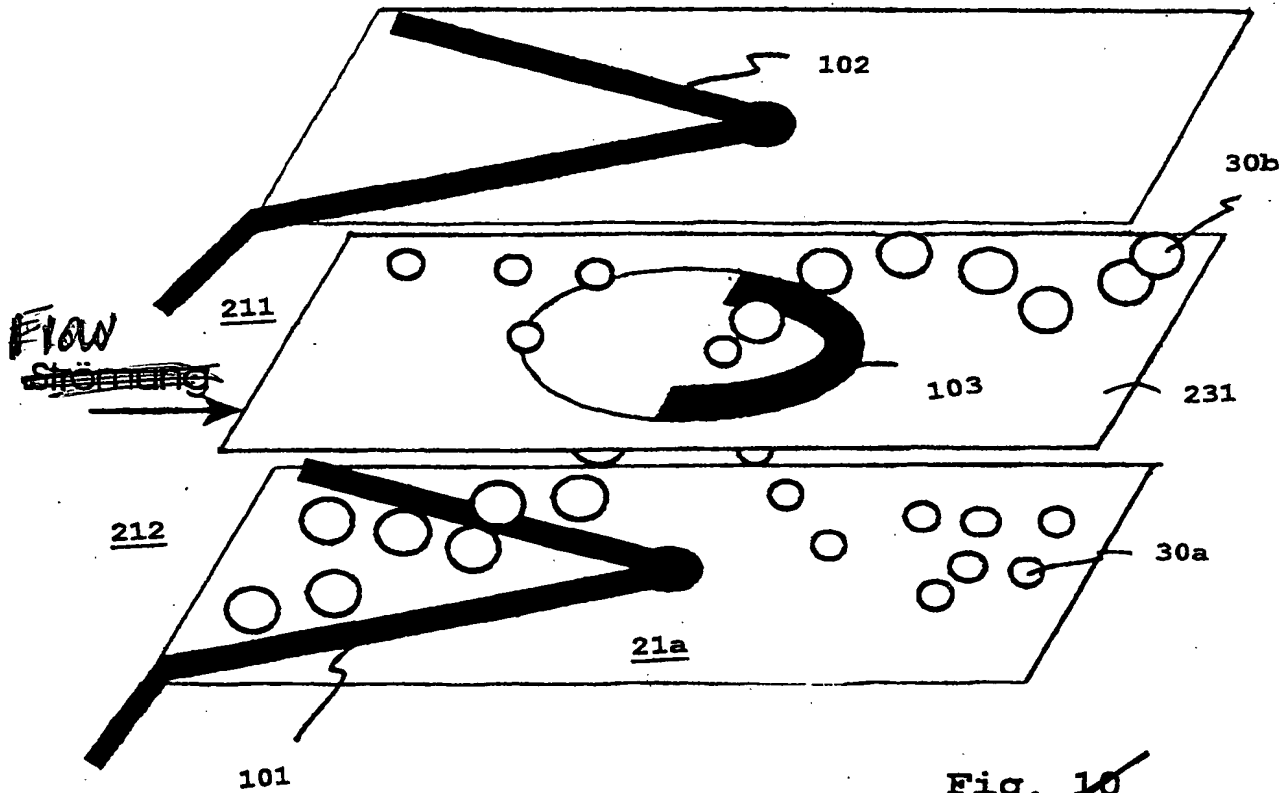
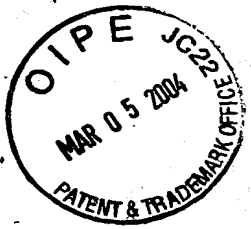


Fig. 10
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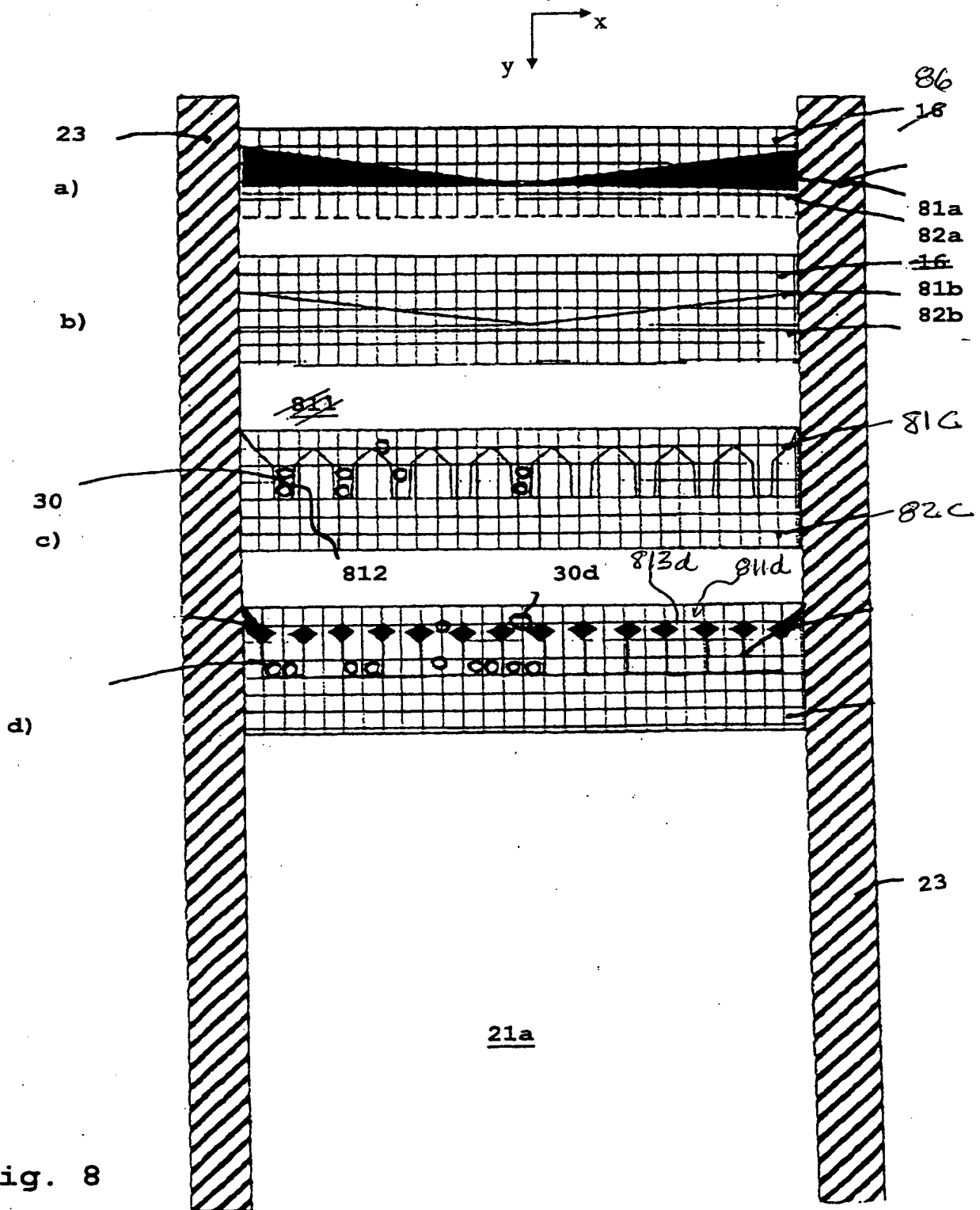


Fig. 8

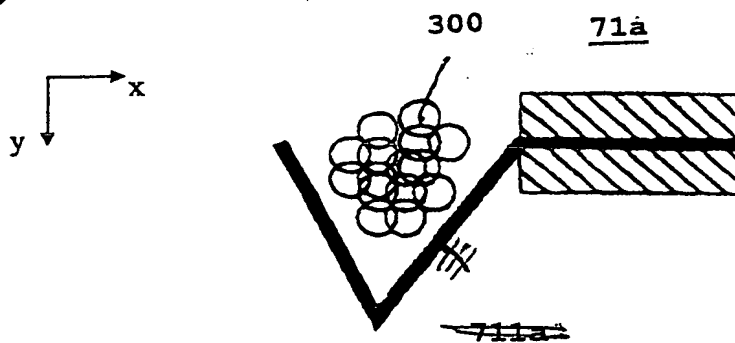


Fig. 7a

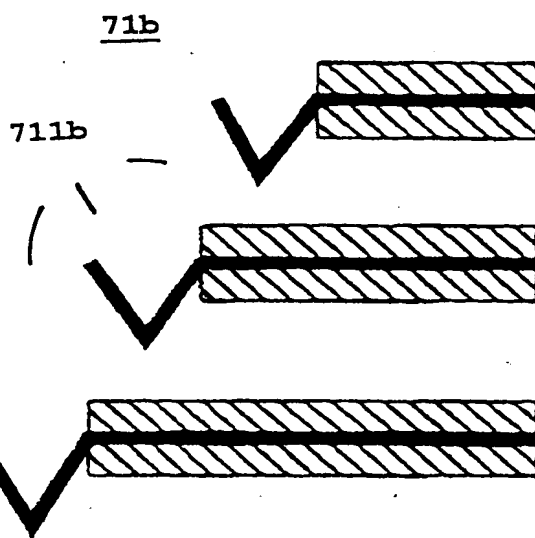


Fig. 7b

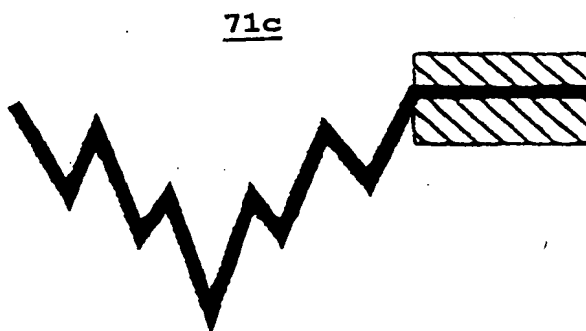


Fig. 7c

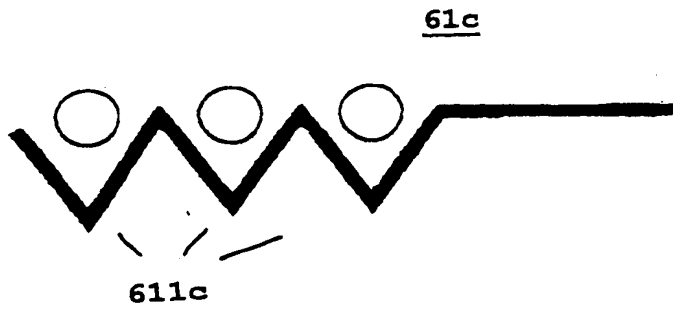


Fig. 6c

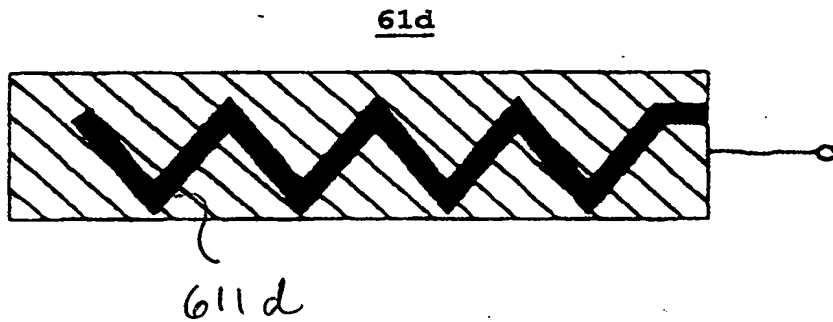


Fig. 6d

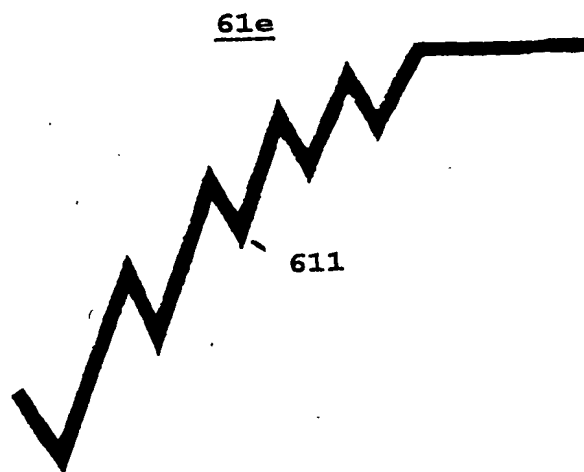


Fig. 6e

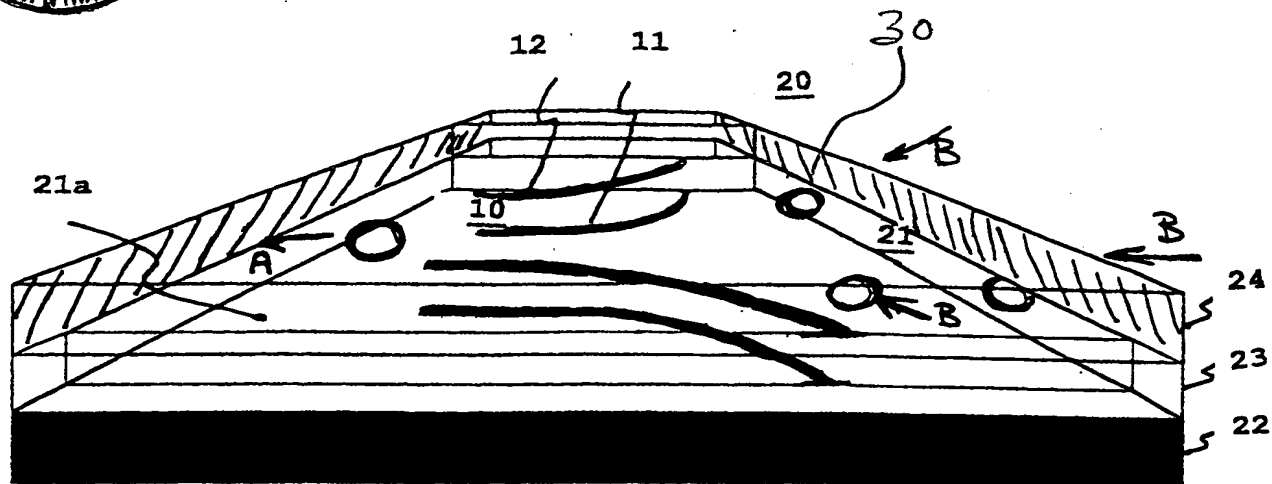
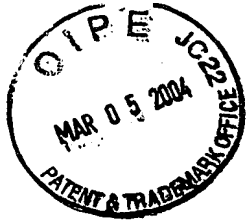


Fig. 1a

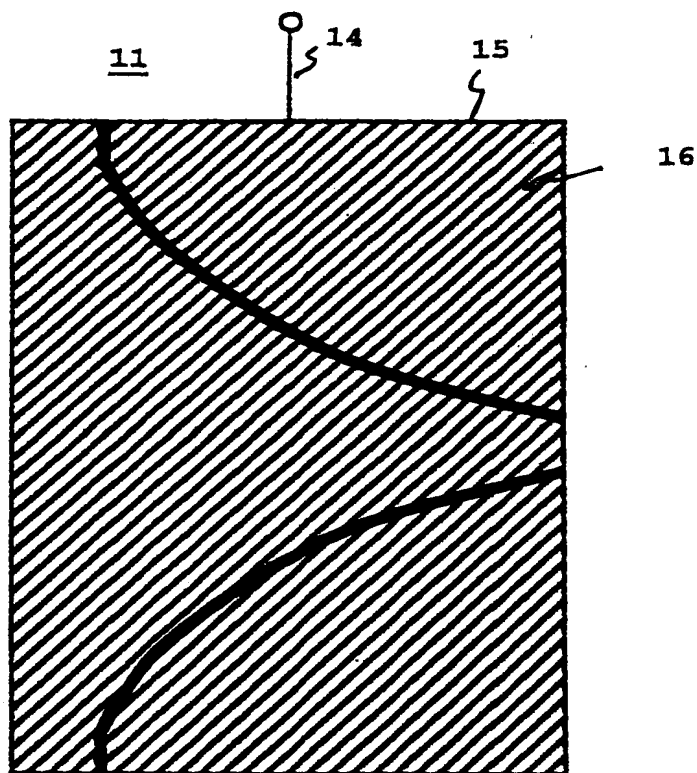


Fig. 3



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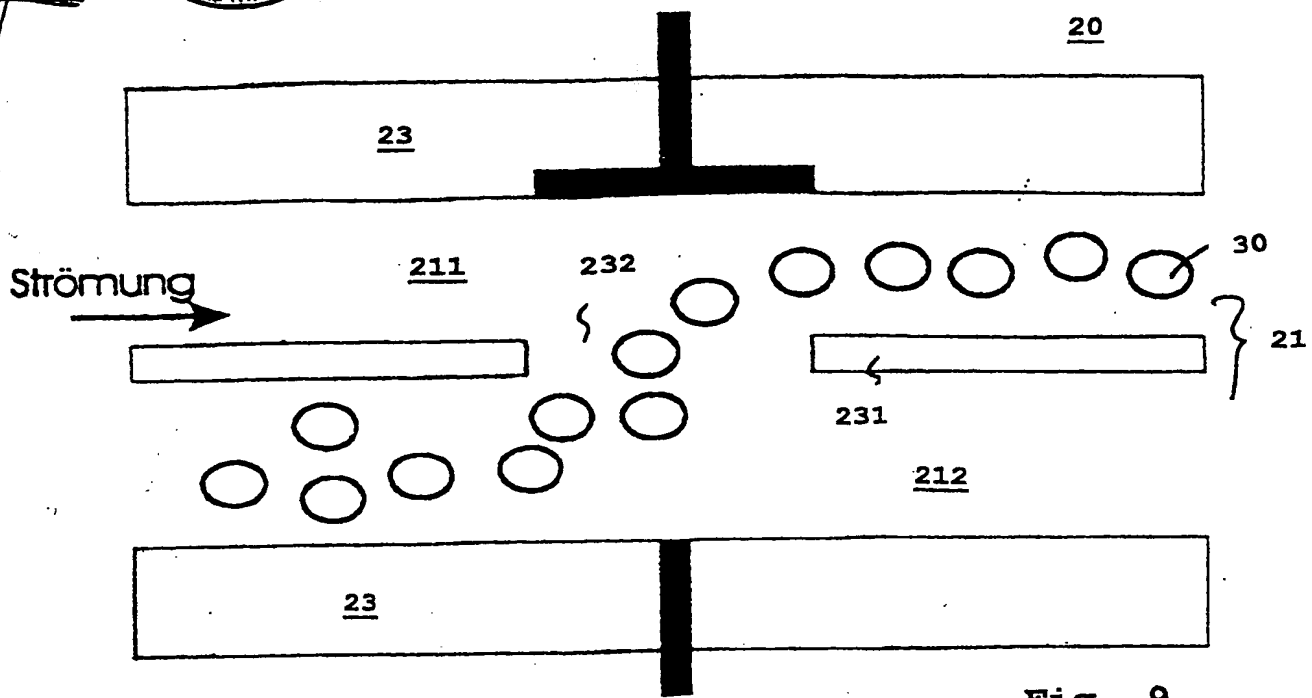


Fig. 9



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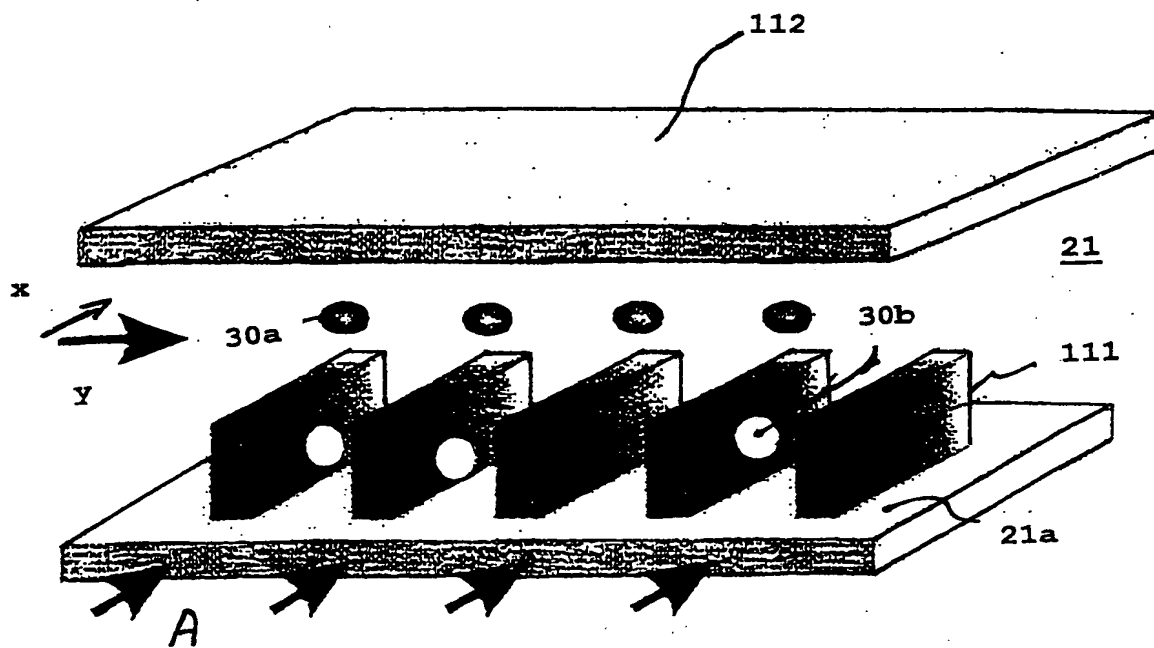


Fig. 11

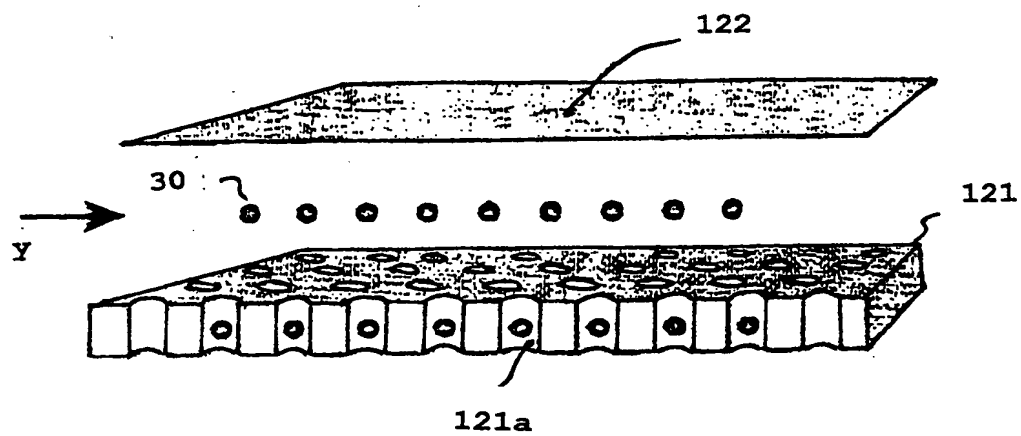
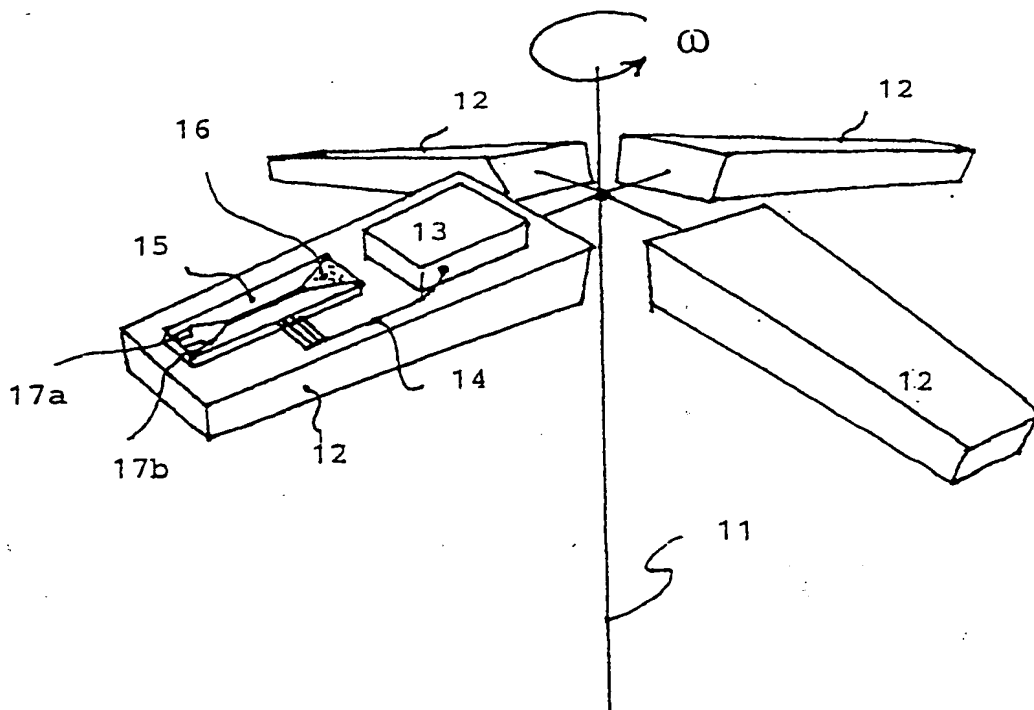


Fig. 12



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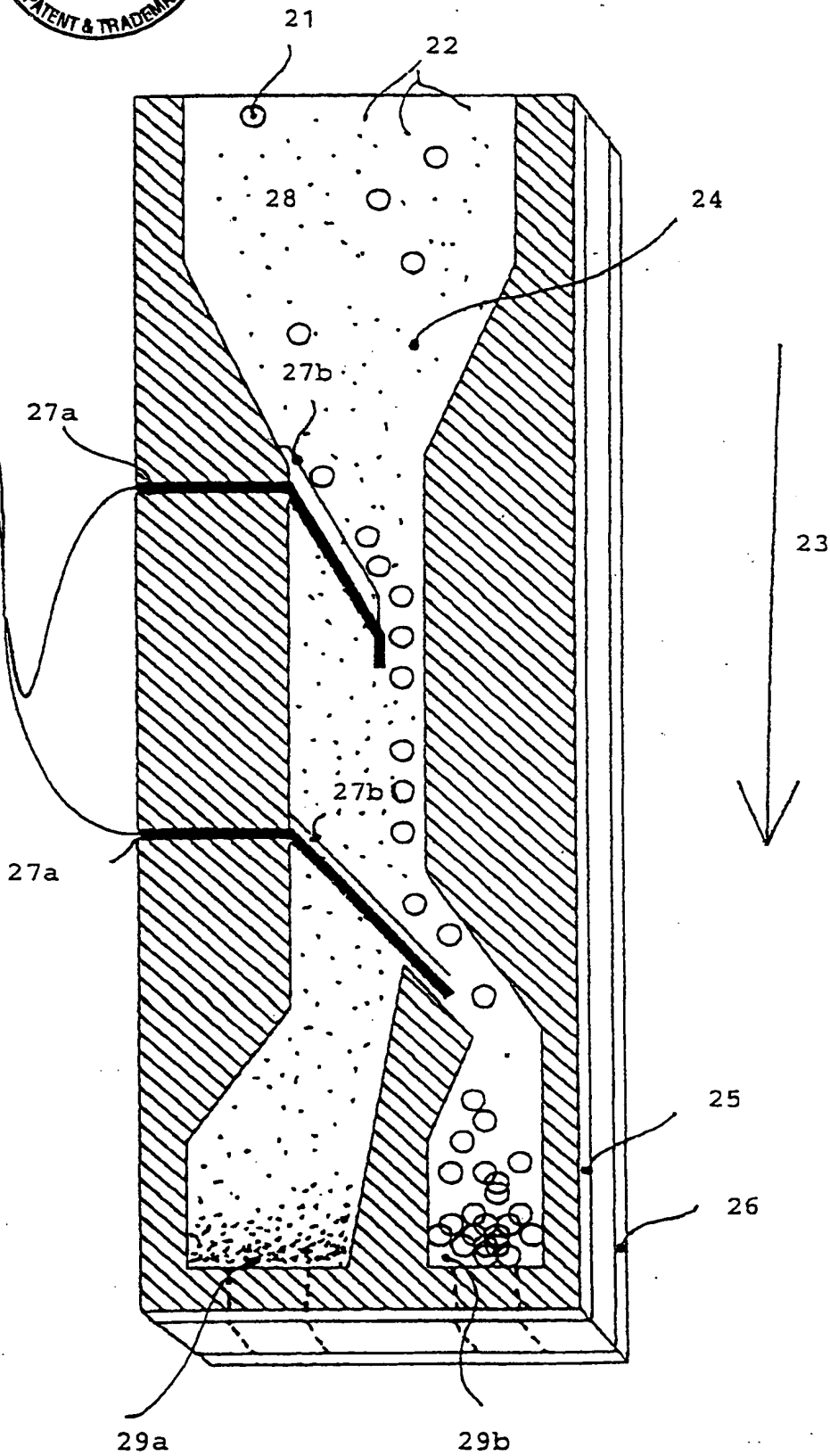


Fig. 15

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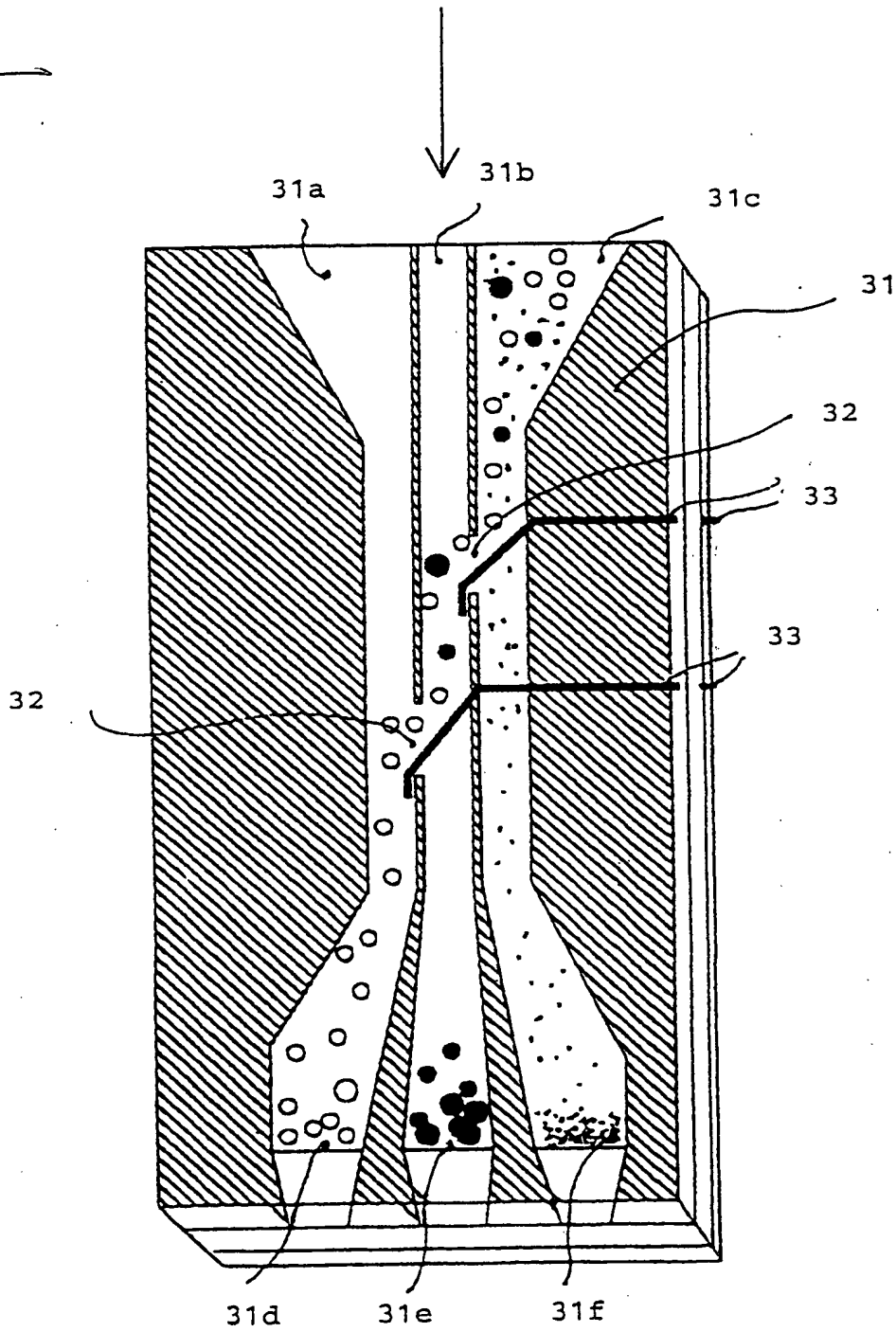


Fig. 16